SHIRAISHI, et al   Q64727
CONTROL APPARATUS
Filed: May 31, 2001
Darryl Mexic   202-293-7060
1 of 5

09/857020

1/5

FIG. 1

SHIRAISHI, et al   Q64727
CONTROL APPARATUS
Filed: May 31, 2001
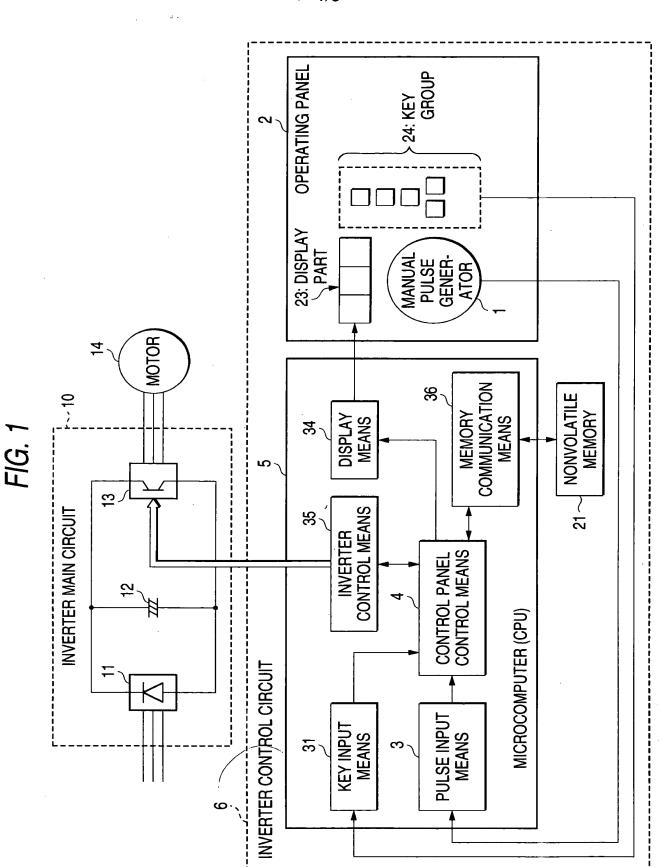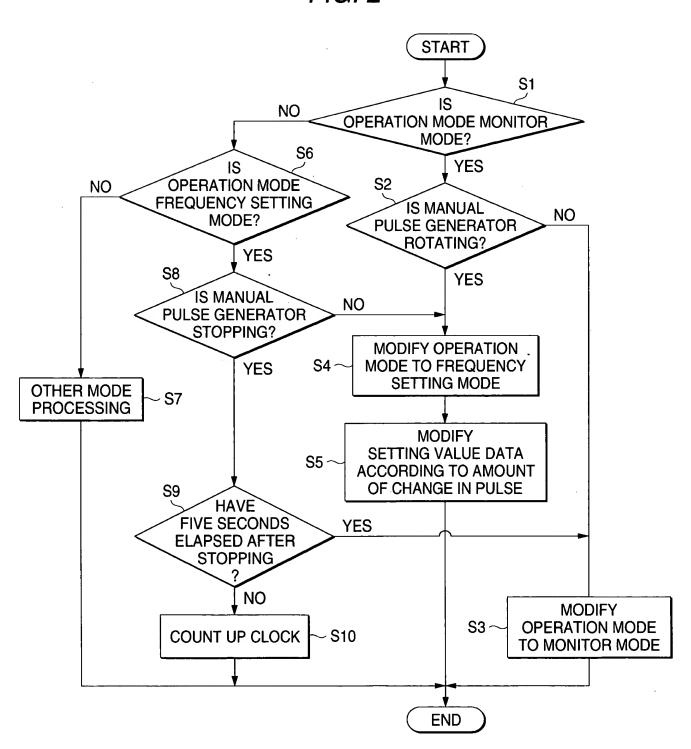Darryl Mexic   202-293-7060
2 of 5

09/857020

2/5

FIG. 2

SHIRAISHI, et al   Q64727
CONTROL APPARATUS
Filed: May 31, 2001
Darryl Mexic   202-293-7060
3 of 5

09/857020

3/5

FIG. 3

THE NUMBER OF PULSES/100ms	1	2	3	4	5	6	7	8	9	10
THE AMOUNT OF CHANGE IN FREQUENCY SETTING VALUE	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
SETTING MODE	NORMAL SETTING MODE					ACCELERATION SETTING MODE				

SHIRAISHI, et al   Q64727
CONTROL APPARATUS
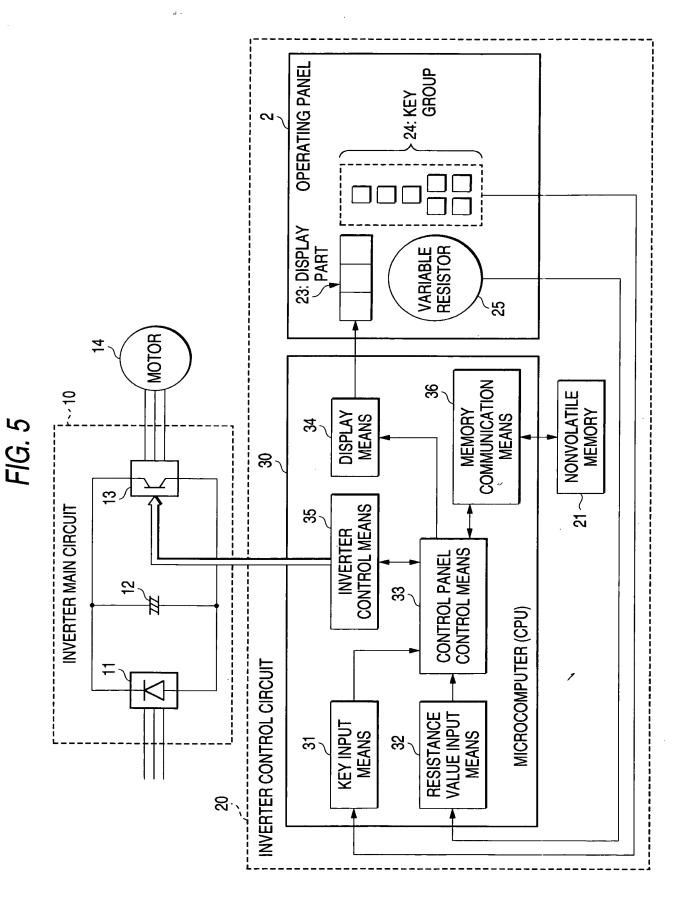Filed: May 31, 2001
Darryl Mexic   202-293-7060
4 of 5

09/857020

4/5

FIG. 4

```
                            START
                              │
                              ▼
                    S21 ┌─────────────┐  NO
                        │ HAVE 100ms  ├──────────────────────┐
                        │ ELAPSED     │                      │
                        │ SINCE LAST  │                      ▼
                        │ PROCESSING  │              S22 ┌──────────┐
                        │      ?      │                  │ COUNT UP │
                        └──────┬──────┘                  │ CLOCK A  │
                            YES│                         └────┬─────┘
                               ▼                              │
            S23 ┌────────────────────────────────┐           │
                │ READ PULSE FROM MANUAL PULSE    │           │
                │ GENERATOR, THE AMOUNT OF        │           │
                │ CHANGE ← THE NUMBER OF PULSES   │           │
                │ - THE NUMBER OF PULSES OF       │           │
                │ LAST TIME                       │           │
                └────────────────┬────────────────┘           │
                                 ▼                             │
                    S24 ┌─────────────┐  NO                    │
                        │ THE AMOUNT  ├───────────┐            │
                        │ OF CHANGE   │           │            │
                        │    = 0?     │           ▼            │
                        └──────┬──────┘    S25 ┌─────────────┐ │
                            YES│               │ ABSOLUTE    │ NO
                               ▼               │ VALUE OF THE├─────┐
                    S30 ┌─────────────┐        │ AMOUNT OF   │     │
                        │ HAS STATE   │  YES   │ CHANGE ≥ 5? │     │
                        │ OF THE      │        └──────┬──────┘     │
                        │ AMOUNT OF   │            YES│            │
                        │ CHANGE = 0  │               ▼            ▼
                        │ CONTINUED   │       S27 ┌─────────┐  S26 ┌──────────┐
                        │ FOR 0.5S OR │           │ CLEAR   │      │ SETTING  │
                        │ LONGER?     │           │ VALUE   │      │ MODE ←   │
                        └──────┬──────┘           │ OF THE  │      │ NORMAL   │
                          YES│ │NO                │ MINIMUM │      │ SETTING  │
                             │ │                  │ DIGIT   │      │ MODE     │
              S31 ┌────────┐ │ │ S32 ┌─────────┐  │ OF      │      └────┬─────┘
                  │SETTING │ │ │     │ COUNT UP│  │ SETTING │           │
                  │MODE ←  │ │ │     │ CLOCK B │  │ f TO    │           │
                  │NORMAL  │ │ │     └────┬────┘  │ ZERO    │           │
                  │SETTING │ │ │          │       └────┬────┘           │
                  │MODE    │ │ │          │            ▼                │
                  └───┬────┘ │ │          │    S28 ┌─────────┐          │
                      │      │ │          │        │ SETTING │          │
                      ▼      │ │          │        │ MODE ←  │          │
              S33 ┌────────┐ │ │          │        │ ACCELE- │          │
                  │ CLEAR  │ │ │          │        │ RATION  │          │
                  │ THE    │◄┘ │          │        │ SETTING │          │
                  │ AMOUNT │◄──┘          │        │ MODE    │          │
                  │ OF     │              │        └────┬────┘          │
                  │ CHANGE │              │             │               │
                  │ IN     │              │             ▼               │
                  │ SETTING│              │   S29 ┌───────────┐         │
                  │ VALUE  │              │       │ SEE THE   │         │
                  │ TO ZERO│              └──────►│ AMOUNT OF │         │
                  └───┬────┘                      │ CHANGE IN │         │
                      │                           │ SETTING   │         │
                      │                           │ VALUE IN  │         │
                      │                           │ TABLE     │         │
                      │                           └─────┬─────┘         │
                      │                                 ▼               │
                      │                               END ◄─────────────┘
                      └──────────────────────────────►
```

SHIRAISHI, et al   Q64727
CONTROL APPARATUS
Filed: May 31, 2001
Darryl Mexic   202-293-7060
5 of 5

09/857020

5/5

FIG. 5